

What is claimed is:

1. A programmable medical device, comprising:
a display device;
an input device for allowing a user to input
5 commands to control the programmable medical device, the
input device comprising:
a routine, responsive to a status of the
programmable medical device, for generating a
display of a plurality of entry keys disposed in a
10 spatial configuration and for selectively displaying
on the display device only those entry keys which
are required by the status for inputting commands to
the programmable medical device; and
a selector for allowing a user to activate the
15 displayed keys to allow the user to input commands
to control operation of the programmable medical
device.
2. The programmable medical device of claim 1
wherein said programmable medical device comprises a
20 medical treatment device for administering a medical
treatment.
3. The programmable medical device of claim 1
wherein said programmable medical device comprises an
infusion pump.
- 25 4. The programmable medical device of claim 1
wherein said programmable medical device comprises a
respirator.
5. The programmable medical device of claim 1
wherein said programmable medical device comprises a
30 vital sign monitor.

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6. The programmable medical device of claim 1 wherein said programmable medical device comprises an apnea monitor.

7. The programmable medical device of claim 1 wherein said programmable medical device comprises a blood analyzer.

8. The programmable medical device of claim 1 wherein the display device comprises an apparatus responsive to touch inputs or the display.

9. The programmable medical device of claim 8 wherein the display device comprises a touch sensitive screen.

10. The programmable medical device of claim 1 wherein the display device comprises an LCD.

11. A programmable medical device, comprising:
a display device;
an input device for allowing a user to input commands to control the programmable medical device, the input device comprising:
a plurality of entry keys disposed in a spatial configuration;
a routine, responsive to a status of the programmable medical device, for selectively enabling only those entry keys which are required by the status for inputting commands to the programmable medical device.

12. The programmable medical device of claim 11 wherein said programmable medical device comprises a medical treatment device for administering a medical treatment.

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13. The programmable medical device of claim 11 wherein said programmable medical device comprises an infusion pump.

14. The programmable medical device of claim 11 wherein said programmable medical device comprises a respirator.

15. The programmable medical device of claim 11 wherein said programmable medical device comprises a vital sign monitor.

16. The programmable medical device of claim 11 wherein said programmable medical device comprises an apnea monitor.

17. The programmable medical device of claim 11 wherein said programmable medical device comprises a blood analyzer.

18. The programmable medical device of claim 11 wherein the input device comprises a keypad and the routine comprises instructions for physically disabling those entry keys which are not required by the current programmable medical device status.

19. The programmable medical device of claim 11 wherein the plurality of entry keys are displayed on the display device and the routine causes selective display of the entry keys as active or inactive.

20. The programmable medical device of claim 19 wherein the inactive keys are displayed in shadow.

21. A controller for controlling a programmable medical device comprising:
a display device;

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a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device; and

a selector for allowing a user to activate the displayed keys to allow the user to input commands to control operation of the programmable medical device.

22. The controller of claim 21 wherein the selector comprises a mouse.

23. The controller of claim 21 wherein the selector comprises a light pen.

24. The controller of claim 21 wherein the selector comprises a keypad.

25. The controller of claim 21 wherein the selector comprises an apparatus responsive to touch inputs.

26. The controller of claim 21 wherein the programmable medical device includes an input device having a plurality of entry keys disposed in a spatial configuration and wherein the routine causes display of the entry keys on the controller in a configuration substantially the same as the entry keys on the medical device.

27. The controller of claim 26 further comprising a memory for storing a plurality of different key configurations, each key configuration corresponding to a plurality of entry keys of a different programmable medical device.

28. The controller of claim 27 further comprising a routine for determining a type of the programmable medical device and for determining an appropriate display for each operation of the programmable medical device.

5 29. The controller of claim 21 wherein the controller further comprises a personal computer.

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10 30. A medical apparatus comprising:
a programmable medical device, the programmable medical device being disposed at a first location and comprising:
an input device for allowing a user to input commands to control the medical device, the input device having a plurality of entry keys disposed in a spatial configuration; and
15 a remote controller for monitoring and controlling the programmable medical device, the remote controller being positionable at a second location remote from the first location but in communication therewith, the remote controller comprising:
20 a display device;
a routine, responsive to a status of the programmable medical device, for generating a display of a plurality of virtual entry keys disposed in a spatial configuration and for
25 selectively displaying on the display device only those virtual entry keys which are required by the status for inputting commands to the programmable medical device; and
a selector for allowing a user to activate the
30 displayed virtual entry keys to allow the user to input commands to control operation of the programmable medical device.

31. The apparatus of claim 30 wherein the programmable medical device comprises an infusion pump

for administering a liquid medicant to a patient, the infusion pump comprising:

a liquid injection device for connection to the patient;

5 a conduit connected to the liquid injection device; a pumping mechanism for pumping the liquid medicant through the conduit and into the patient via the liquid injection device; and

a controller for controlling the pumping mechanism.

10 32. The apparatus of claim 30, wherein the remote controller further comprises a memory for storing a plurality of different key configurations, each key configuration corresponding to a plurality of entry keys of a different programmable medical device.

15 33. An apparatus as defined in claim 30 wherein the remote controller further comprises: a communication device for transmitting command signals to control the operation of the programmable medical device, a monitoring device for monitoring the programmable medical
20 device, a data transmission device for transferring data generated by the programmable medical device and a display device for viewing data generated by the programmable medical device.

25 34. The apparatus of claim 33 wherein each of said communication device, monitoring device, data transmission device and display device comprises a routine stored in the memory.

30 35. A method for controlling a programmable medical device, the programmable medical device having a display device, an input device for allowing a user to input commands to control the programmable medical device, the input device comprising: a routine, responsive to a status of the programmable medical device, for generating

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a display of a plurality of entry keys disposed in a spatial configuration and for selectively displaying on the display device only those entry keys which are required by the status for inputting commands to the programmable medical device; and a selector for allowing a user to activate the displayed keys to allow the user to input commands to control operation of the programmable medical device, comprising the steps of:

- 5 determining the status of the programmable medical treatment device;
- 10 selecting those entry keys which are required by the status for inputting commands to the programmable medical device; and
- 15 displaying only those entry keys which are required by the status for inputting commands to the programmable medical device.

36. A method for controlling a programmable medical device, the programmable medical device having a display device, an input device for allowing a user to input commands to control the programmable medical device, the input device comprising: a plurality of entry keys, disposed in a spatial configuration; and a routine, responsive to a status of the programmable medical device, for selectively enabling only those entry keys which are required by the status for inputting commands to the programmable medical device, comprising:

- 20 determining the status of the programmable medical device;
- 25 selecting those entry keys which are required by the status for inputting commands to the programmable medical device; and
- 30 enabling only those entry key which are required by the status for inputting commands to the programmable medical device.

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